April 5, 1932. J. E. CARPENTER ET AL 1,852,074

AUTOMATIC FIRE EXTINGUISHER

Filed Aug. 6, 1929

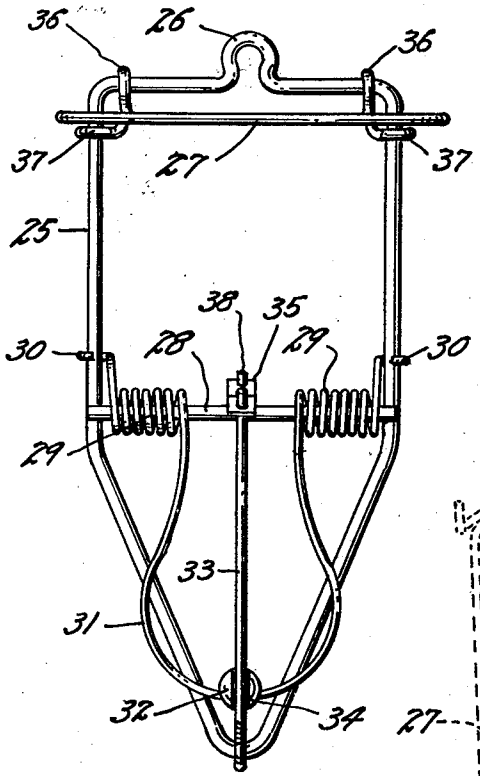

Fig. 1

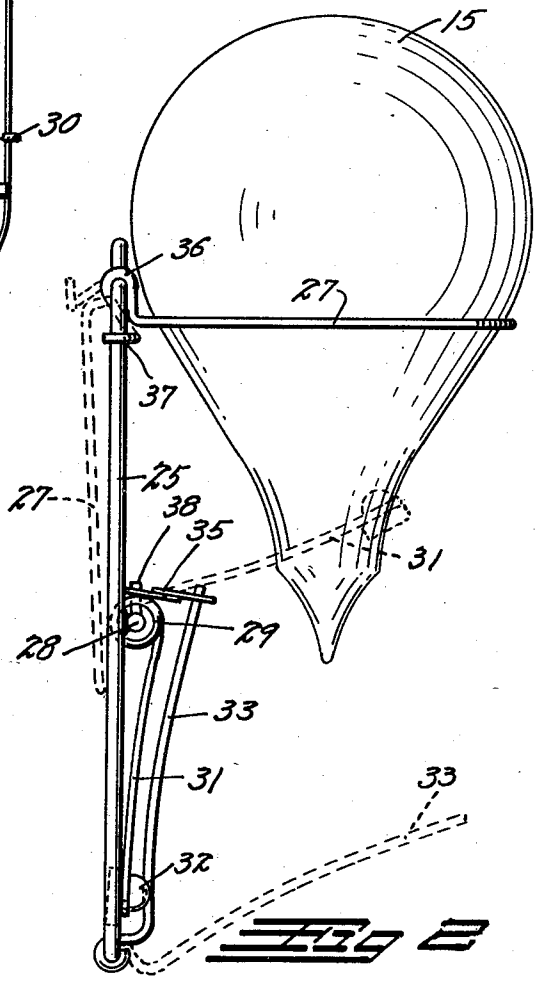

Fig. 2

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Patented Apr. 5, 1932 1,852,074

UNITED STATES PATENT OFFICE

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AUTOMATIC FIRE EXTINGUISHER

Application filed August 6, 1929. Serial No. 383,848.

This invention relates to an automatic fire extinguisher of the grenade type and has for its principal object the provision of means for supporting a frangible grenade containing extinguishing liquid in combination with spring actuated means which will effectively operate to break the grenade and scatter the extinguishing liquid.

Another object of the invention is to so construct the spring actuated portion of the device that it will be positively released when subjected to a predetermined degree of heat.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawings which form a part hereof. Like numerals refer to like parts in all views of the drawings and throughout the description.

In the drawings:

Fig. 1 is a front elevation of the invention with the grenade removed.

Fig. 2 is a side elevation of the invention with the grenade in place.

The invention comprises a supporting frame 25 provided with an opening or notch 26 through which a screw or nail can be inserted for attaching the frame to any desired supporting surface. The frame is constructed from a continuous length of metal rod or wire and is preferably formed with a pointed lower extremity as illustrated.

A grenade loop 27 is hinged at 36 over the top member of the frame 25 for supporting a grenade such as indicated at 15. The loop 27 is provided with hooked extremities 37 which engage the forward face of the frame 25 to maintain the loop 27 in a horizontal position. In packing and shipping the device, the loop 27 may be turned backwardly against the frame as illustrated in broken line in Fig. 2.

The grenade 15 may be of any of the usual types formed of relatively thin glass and containing any suitable fire extinguishing liquid. It is preferably pear shaped as illustrated so that it will fit within and extend well below the loop 27. A spring rod 28 extends across the frame 25 intermediate its extremities.

A spring formed of a continuous length of spring wire is wrapped about the rod 28 forming two spiral coils 29. The extremities of the spring wire are secured to the frame 25 as shown at 30. Between the coils 29 the spring wire extends outwardly in a spring loop 31 which carries a hammer or breaking button 32 at its mid-point.

The spring loop 31 is maintained in the inactive position of Fig. 1 by means of a hinged spring arm 33 which is pivoted or hinged upon the lowermost point of the frame 25. The pointed extremity formed on the frame 25 serves to position the spring arm 33 at the medial line of the frame 25.

In the position of Fig. 1, the spring arm 33 lies in a slot 34 formed in the breaking button 32 and its upper extremity is maintained in position by means of a fusible link 35. The link 35 contains two perforations one of which is slipped over the extremity of the spring arm 33 and the other of which is slipped over a post 38 extending upwardly from the spring rod 28.

The fusible link 35 may be of any desired form. As illustrated it comprises two sections of metal soldered together by means of any of the usual low temperature solders.

When the temperature surrounding the device reaches a point sufficient to melt the solder in the fusible link 35, the two sections of the link will release from each other allowing the arm 33 to drop and release the spring loop 31. The spring loop then snaps upwardly, as indicated in broken line in Fig. 2, breaking the grenade and shattering it into fragments. This effectively releases and scatters the extinguishing liquid.

It will be noted that the spring loop, owing to its wide U-shape, extends completely across the pointed bottom of the grenade. It can not, therefore, fail to strike the grenade and tear away its entire bottom. Thus a complete discharge of the contained liquid is insured.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may

be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:—

1. An automatic fire extinguisher comprising: a frame wire bent to form the periphery of a supporting frame; a pointed lower extremity on said frame wire; a bracket extending outwardly adjacent the upper extremity of said frame wire; a grenade supported in said bracket; a spring rod extending across said frame wire intermediate its extremities; a coil spring surrounding said rod and having its ends fixed; a loop formed on said coil spring and arranged to break said grenade; a spring arm hinged at its one extremity to the pointed extremity of said frame wire and adapted to extend upwardly so as to normally hold said loop under stress over said pointed extremity; a projection formed on said spring rod and a fusible link extending from said projection to the other extremity of said spring arm so that when said link is fused said arm will release said loop and allow it to swing upwardly and strike said grenade.

2. In an automatic fire extinguisher having a frame and a spring impelled striker arranged to break a grenade mounted on said frame; a spring arm hinged at its one extremity on said frame and adapted to extend over said striker so as to hold it normally out of contact with said grenade and under stress; and a fusible link holding the other extremity of said spring arm in place so that when said link is fused said arm will swing upon its hinge and release said striker.

3. An automatic fire extinguisher comprising: a frame wire bent to form the periphery of a supporting frame; a pointed lower extremity on said frame wire; a bracket extending outwardly adjacent the upper extremity of said frame wire; a grenade supported in said bracket; a spring rod extending across said frame wire intermediate its extremities; a coil spring surrounding said rod and having its ends fixed; a loop formed on said coil spring and arranged to break said grenade; a spring arm hinged at its one extremity to the pointed extremity of said frame wire and adapted to extend upwardly so as to normally hold said loop under stress; a projection formed on said spring rod and a fusible link extending from said projection to the other extremity of said spring arm so that when said link is fused said arm will release said loop and allow it to swing upwardly and strike said grenade, said bracket being hinged to said frame wire so that it may be folded thereon when relieved of the weight of said grenade.

4. An automatic fire extinguisher comprising: a wire supporting frame; a bracket extending outwardly adjacent the upper extremity of said frame; a grenade supported in said bracket; a spring rod extending across said frame intermediate its extremities; a coil spring surrounding said rod and having its ends fixed; a loop formed on said coil spring and arranged to break said grenade; a spring arm hingedly supported by said frame and adapted to extend over said loop so as to normally hold said loop under stress; and a fusible link fixed at its one extremity and connecting with the free extremity of said spring arm so that when said link is fused said arm will release said loop and allow it to swing and strike said grenade.

In testimony whereof, we affix our signatures.

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